

Cont  
A1  
4. (Amended) The carrier head of claim 1, wherein the outer surface of the flexible membrane includes macroscopic features to increase its friction coefficient.

5. (Amended) The carrier head of claim 1, wherein the friction coefficient of the outer surface of the flexible membrane is sufficiently high that the substrate does not move or rotate relative to the membrane during polishing.

9. (Amended) A carrier head, comprising:  
a retaining ring;  
a pressurizable chamber; and  
a flexible membrane to press a substrate against a polishing surface, the flexible membrane including an inner surface that forms a boundary of the pressurizable chamber and an outer surface having macroscopic surface features to increase a friction coefficient of the outer surface.

10. The carrier head of claim 9, wherein the flexible membrane is formed of a material having a high friction coefficient.

11. (Amended) The carrier head of claim 9, wherein the outer surface of the flexible membrane is roughened to increase its friction coefficient.

12. (Amended) The carrier head of claim 9, wherein the friction coefficient of the flexible membrane is sufficiently high that the substrate does not move or rotate relative to the membrane.

13. The carrier head of claim 9, wherein the features are grooves.

14. The carrier head of claim 9, wherein the features are vias.

Cont  
A2

15. A method of assembling a carrier head comprising:  
abrading a flexible membrane to provide the membrane with a roughened surface;  
installing the flexible membrane in the carrier head in a position to apply pressure to a  
substrate.

Please add claims 16-18.

16. (New) The carrier head of claim 1, wherein the outer surface is rougher than the  
inner surface.

A3  
17. (New) The carrier head of claim 1, wherein the features are selected from  
grooves and vias.

18. (New) The carrier head of claim 9, wherein the outer surface is rougher than the  
inner surface.

19. (New) A carrier head, comprising:  
a retaining ring;  
a pressurizable chamber; and  
a fluid-tight flexible membrane with an inner surface that forms a boundary of the  
pressurizable chamber and an outer surface to press a substrate against a polishing surface,  
wherein the outer surface is rougher than the inner surface.

#### REMARKS

Claims 4 and 8-15 stand rejected as indefinite. Claims 4-5 and 8 have been amended to  
address the Examiner's concerns. With respect to claim 15, the Examiner's comments are not  
understood, as the claim already calls for "installing the flexible membrane in the carrier head"

Claims 1-14 stand rejected as anticipated by either U.S. Patent No. 5,486,129 ("Sandhu")  
or U.S. Patent No. 5,830,806 ("Hudson").